

Kaufman et al.

S/N: 10/605,450

**In the Claims**

What is claimed is:

1. Canceled
2. Canceled
3. (Currently Amended) A wire feeder comprising:  
an output connectable to a gun assembly;  
a controller configured to automatically determine a type of gun assembly  
connected to the output;  
The wire feeder of claim 2 a motor assembly configured to deliver a  
consumable electrode to a weld when the gun assembly is activated; and  
wherein the controller is further configured to determine gun assembly  
type based on an impedance of a motor assembly in the gun when the gun assembly is  
first activated.
4. (Original) The wire feeder of claim 3 wherein the controller is further configured to determine gun assembly type when a trigger of the gun assembly is depressed.
5. (Original) The wire feeder of claim 3 wherein the controller is further configured to determine gun assembly type when a serial communication link is established with a power source or wire feeder.
6. (Original) The wire feeder of claim 3 wherein the controller is further configured to compare the impedance to a look-up table of impedance values to determine gun assembly type.

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7. (Currently Amended) The wire feeder of claim [[2]]3 wherein the motor assembly is further configured to deliver a consumable electrode to the weld at a constant speed if a four-pin connector is connected to the output.

8. (Original) The wire feeder of claim 7 wherein the motor assembly is further configured to deliver a consumable electrode to the weld at a constant torque if a ten-pin connector of the gun assembly is connected to the output.

9. (Original) The wire feeder of claim 8 wherein the controller is further configured to cause a motor in the gun assembly to deliver a consumable electrode to a weld at a constant speed if a ten-pin connector of the gun assembly is connected to the output.

10. (Currently Amended) The wire feeder of claim [[1]]3 wherein the output is further configured to receive a connector of a MIG welding gun, a spool gun, or a push-pull welding gun.

11. (Original) A controller for a welding-type system, the controller configured to:

detect an impedance of a motor assembly designed to deliver welding wire to a weld;

from the impedance, determine a type of load placed on the motor assembly; and

based on the type of load, automatically set an output mode of the motor assembly.

12. (Original) The controller of claim 11 wherein the type of load is indicative of a gun assembly operationally connected to the motor assembly.

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13. (Original) The controller of claim 11 wherein the output mode includes one of constant speed mode and constant torque mode with at least one feedback path to the motor assembly.

14. (Original) The controller of claim 13 further configured to set the output mode to the constant speed mode if the type of load is a spool-type gun.

15. (Original) The controller of claim 13 further configured to set the output mode to the constant speed mode if the type of load is a push-pull type welding gun.

16. (Original) The controller of claim 11 further configured to determine a number of pins in a connector of a welding gun operationally connected to a wire feeder having the motor assembly disposed therein.

17. Canceled

18. (Currently Amended) A method of controlling operation of a wire feeder, the method comprising the steps of:

determining configuration of pins in a connector connecting a welding gun assembly to a wire feeder;

from the configuration, automatically setting an output mode of a motor assembly in the wire feeder; and

The method of claim 17 further comprising the step of determining an impedance of a gun motor assembly disposed in the welding gun assembly and setting an output mode of the gun motor assembly based on the impedance.

19. (Original) The method of claim 18 wherein the output mode of the gun motor assembly includes a constant speed mode if the impedance matches that of a spool gun.

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20. (Original) The method of claim 18 further comprising the step of setting the output mode of the motor assembly to a constant torque mode if the configuration of pins corresponds to a push-pull welding gun assembly.

21. (Original) The method of claim 20 further comprising the step of setting the output mode of the gun motor assembly to a constant speed mode if the configuration of pins corresponds to a push-pull welding gun assembly.

22. Canceled /

23. (New) An apparatus comprising:  
a wire feeder defined by a plurality of side panels, a cover panel, and a base;  
a motor disposed in the wire feeder and configured to drive a spooled wire to a weld;  
an output terminal connected to a surface of the wire feeder and configured to electrically connect the wire feeder to a welding-type component; and  
a controller configured to automatically determine a type of gun assembly connected to the output terminal.

24. (New) The apparatus of claim 23 wherein the controller is further configured to determine gun assembly type based on an impedance of a motor assembly in the gun when the gun assembly is first activated.

25. (New) The apparatus of claim 24 wherein the controller is further configured to compare the impedance to a look-up table of impedance values to determine gun assembly type.

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26. (New) The apparatus of claim 24 wherein the motor assembly is further configured to deliver a consumable electrode to the weld at a constant speed if a four-pin connector is connected to the output terminal.

27. (New) The apparatus of claim 24 wherein the motor assembly is further configured to deliver a consumable electrode to the weld at a constant torque if a ten-pin connector of the gun assembly is connected to the output terminal.

28. (New) The apparatus of claim 23 wherein the output terminal is further configured to receive a connector of a MIG welding gun, a spool gun, or a push-pull welding gun.

29. (New) The apparatus of claim 23 wherein the controller is further configured to determine gun assembly type when a serial communication link is established with a power source.

30. (New) The apparatus of claim 23 wherein the controller is further configured to determine gun assembly type when a trigger of the gun assembly is depressed.

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